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AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

Certificate No.: TC-5548

QC ABSTRACT

NAME OF WORK: Roads and Footpath Maintenance in Ward No.15

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1

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4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 25-05-20

Lab ID : CP-2020-07-17-38
Customer : Assistant Executive Engineer, T-Dasarahalli Sub Division, BBMP, Bangalore.
Address : T-Dasarahalli Sub Division, BBMP, Bangalore.
Project Name : Roads and Footpath Maintenance in Ward No.15
Agency : Sri.Kumar B J, #01, Sreenilaya, Behind Rangamandira, Bagalagunte, Nagasandra, Bengalore-560073
Customer's Reference : EE/DD/W.O/ 20 /2020-21
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 22-05-20
Sample Type : Birla Super 53grade
Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 23-05-20
Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.46	–
2	Finess by Air permeablity method (m^2/kg,Min)	255.8	225m^2/kg, Min
3	Density (gm/cc)	3.12	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1mm	Not more than 10 mm

Note:

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Assistant Executive Engineer
T. Dasarahalli Sub Division
Bagalagunte, BBMP
Bangalore-560073

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Authorized Signatory
Quality Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 20-06-20

Lab ID : CP-2020-07-17-38

Customer : Assistant Executive Engineer, T-Dasarahalli Sub Division, BBMP, Bangalore.

Address : T-Dasarahalli Sub Division, BBMP, Bangalore.

Project Name : Roads and Footpath Maintenance in Ward No.15

Agency : Sri.Kumar B J, #01, Sreenilaya, Behind Rangamandira, Bagalagunte, Nagasandra, Bengalore-560073

Customer's Reference : EE/DD/W.O/ 20 /2020-21

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 22-05-20

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 6, Determination of Compressive Strength, Clause 6

Date of test : 23-05-20

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Date: 25-05-20

Lab ID : CP-2020-07-17-38
Customer : Assistant Executive Engineer, T-Dasarahalli Sub Division, BBMP, Bangalore.
Address : T-Dasarahalli Sub Division, BBMP, Bangalore.
Project Name : Roads and Footpath Maintenance in Ward No.15
Agency : Sri.Kumar B J, #01, Sreenilaya, Behind Rangamandira, Bagalagunte, Nagasandra, Bengalore-560073
Customer's Reference : EE/DD/W.O/ 20 /2020-21
Source of Sample : Sample supplied by Agency
Sample condition : Satisfactory
Date of Receipt : 22-05-20
Sample Type : 40mm down size coarse aggregate
Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
IS 2386 Part 4: Mechanical Properties
Date of test : 22-05-20

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	234	234	1.6	98.4	90-100
3	20 mm	5334	5568	37.1	62.9	30-70
4	10 mm	4788	10356	69.0	31.0	10-35
5	4.75 mm	4354	14710	98.1	1.9	0-5
6	Pan	290	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2020-07-17-38 Date: 25-05-20

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.6	
3	Specific Gravity	2.69	--
4	Bulk Density(Loose) (Kg/l)	1.54	--
5	Bulk Density(Compacted) (Kg/l)	1.58	--
6	Water Absorption(%)	0.24	--

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	CP-2020-07-17-38 **Date: 25-05-20**
Customer	:	Assistant Executive Engineer, T-Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	T-Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Roads and Footpath Maintenance in Ward No.15
Agency	:	Sri.Kumar B J, #01, Sreenilaya, Behind Rangamandira, Bagalagunte, Nagasandra, Bengalore-560073
Customer Reference	:	EE/DD/W.O/ 20 /2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-20
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	22-05-20

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	245	245	4.9	95.1	90-100
3	10 mm	2675	2920	58.4	41.6	25-55
4	4.75 mm	1798	4718	94.4	5.6	0-10
5	Pan	282	5000	100	0	-

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Bangalore-560073

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Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2020-07-17-38** **Date: 25-05-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.2	
3	Specific Gravity	2.64	–
4	Bulk Density(Loose) (Kg/l)	1.52	–
5	Bulk Density(Compacted) (Kg/l)	1.56	–
6	Water Absorption(%)	0.24	–
7	Aggregate crushing Value(%)	22.6	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	21.8	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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TEST REPORT OF FINE AGGREGATE

Lab ID	:	CP-2020-07-17-38
		Date: 25-05-20
Customer	:	Assistant Executive Engineer, T-Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	T-Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Roads and Footpath Maintenance in Ward No.15
Agency	:	Sri.Kumar B J, #01, Sreenilaya, Behind Rangamandira, Bagalagunte, Nagasandra, Bengalore-560073
Customer's Reference	:	EE/DD/W.O/ 20 /2020-21
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-20
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	22-05-20
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---
Result :The tested Sample Conforms to Grading Zone II									

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2020-07-17-38** **Date: 25-05-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : CP-2020-07-17-38 **Date: 30-05-20**
Customer : Assistant Executive Engineer, T-Dasarahalli Sub Division, BBMP, Bangalore.
Address : T-Dasarahalli Sub Division, BBMP, Bangalore.
Project Name : Roads and Footpath Maintenance in Ward No.15
Agency : Sri.Kumar B J, #01, Sreenilaya, Behind Rangamandira, Bagalagunte, Nagasandra, Bengalore-560073
Customer's Reference : EE/DD/W.O/ 20 /2020-21
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 26-05-20
Sample Type /Size : Precast Cover Slab
Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete
Date of test : 26/05/2020

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	75.51	100.48	1.116	4477	80.9	18.1	16.8	21.0
2	Cover Slab-2	75.49	100.52	1.122	4475	82.3	18.4	17.1	21.4
3	Cover Slab-3	75.50	100.51	1.118	4476	81.5	18.2	16.9	21.2

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